

REMARKS

Claims 1-8 and 10-17 were examined. No claims are amended. Claims 1-8 and 10-17 remain in the Application.

The Patent Office rejects claims 1-8 and 10-17 under 35 U.S.C. §103(a) as obvious over U.S. Patent Application No. 2001/0037821 of Staley (Staley). No other rejections are presented. However, Applicants assume that all claims are rejected and thus offers the following comments with regard to Staley.

Claims 1-3 relate to a method comprising removing a material from a surface of a wafer by chemical mechanical polishing the wafer with a slurry comprising an oxidation agent for the material and a buffer; and monitoring a signal representative of current required to rotate the wafer as a measure of a material removal endpoint. The buffer is present in the slurry in an amount sufficient to at least double a differential between a signal measured at a material removal start point and the material removal endpoint relative to a slurry without the buffer.

Staley teaches a multi-component polishing and/or cleaning composition wherein the components are mixed at the point-of-use or immediately before delivery to the point-of-use. Staley describes various components that may or may not be used in embodiments of the polishing and/or cleaning compositions. Those components include an abrasive, an oxidizing agent, a catalyst, a film forming agent, a complexing agent, a surfactant and a stabilizer. See page 2, paragraph 0013 through page 3, paragraph 0022.

Claims 1-3 are not rendered obvious by Staley, because Staley does not describe, teach or suggest a method including removing material from a surface of a wafer by chemical mechanical polishing the wafer with a slurry comprising an oxidation agent and a buffer wherein the buffer is present in an amount sufficient to at least double a differential between a signal measured at a material removal start point and the material removal endpoint relative to a slurry without the buffer. In previous Office Actions, the Patent Office pointed to the complexing agents of Staley as inherently having properties of a buffer. Without conceding that such complexing agents have such property, Applicants fail to find any disclosure or motivation in Staley to use complexing

agents in an amount to at least double a differential between a signal measured at a material removal start point and the material removal endpoint relative to a slurry without the buffer. Simply saying that a component of a slurry is a buffer does not motivate or place that component in an amount sufficient to at least double a differential as described.

Applicants believe that the Patent Office is indulging in "boot strapping" its arguments. Specifically, in the last paragraph of page 3 of the current Office Action, the Patent Office admits that Staley does not specifically teach that the buffer is an organic acid/salt pair. Moreover, the Patent Office has not identified any description or motivation in Staley for a buffer that is present in an amount to double a differential between a signal measured at a material removal start point and a material removal end point, as required by the claims. Thus, although the Patent Office points out that Staley teaches that many compounds can exist in the form of a salt, an acid, or as a partial salt, there is no description or suggestion that any single ingredient, or combination of ingredients should be selected to double a differential signal as claimed. Consequently, the Patent Office's argument that just because Staley describes sensors to detect changes in friction or torque, makes obvious selecting the proper ingredients, or optimizing proportions of the proper ingredients in order to create a buffer that could be present and that is present in an amount sufficient to at least double a differential as claimed, is boot strapping because the argument presumes that such a buffer is described, would be selected in an appropriate amount to double a differential, and that a motive of doubling the differential between a signal exists in Staley, which as the Patent Office points out is not the case. In other words, the Patent Office's motive to use a sufficient amount of buffer to double a differential presumes the appropriate buffer exists; and the Patent Office's motive for existence of the appropriate buffer presumes the motive to double the differential. Thus, Applicants find the Patent Office's argument lacks proper motivation for selecting ingredients for such a buffer, presenting an appropriate amount of the buffer to double a differential signal, or for doubling a differential signal, as claimed. Hence, Applicants respectfully request the Patent Office withdraw the rejection above.

In addition to the arguments above, Applicants assert that there is no teaching or suggestion of a buffer from the group consisting of citric acid/potassium citrate, acetic acid/potassium acetate and asorbic acid/potassium ascorbate, as required by claim 3.

Specifically, the Patent Office has not identified and Applicant is unable to find any teaching or suggestion in Staley of using potassium citrate, potassium acetate, asorbic acid, or potassium ascorbate in a buffer. Hence, for this additional reason, Applicants respectfully request the Patent Office withdraw the rejection of claim 3.

Claims 4-8 and 10-11 relate to a composition including a slurry, an oxidizing agent, an abrasive and a buffer. The buffer is present in an amount sufficient to at least double a differential between a signal measured at a material removal start point and the material removal endpoint relative to a slurry without the buffer. Applicants believe claims 4-8 and 10-11 are not anticipated or rendered obvious over Staley for the reasons stated above with respect to claims 1-3 that Staley does not teach a buffer present in such sufficient amount.

Claims 12-17 relate to a kit. The kit includes, among other things, a slurry, an oxidizing agent, an abrasive and a buffer in an amount sufficient to at least double a differential between a signal measured at a material removal start point and the material removal endpoint relative to a slurry without the buffer. As noted above with respect to claims 1-3, Staley does not teach or provide any motivation for a buffer in such sufficient amount. Accordingly, claims 12-17 are not anticipated or rendered obvious over Staley.

Applicants respectfully request that the Patent Office withdraw the rejection to claims 2-3, 6-7 and 15-16 under 35 U.S.C. §103(a) as obvious over Staley.

CONCLUSION

In view of the foregoing, it is believed that all claims now pending patentably define the subject invention over the prior art of record and are in condition for allowance and such action is earnestly solicited at the earliest possible date.

Respectfully submitted,

BLAKELY, SOKOLOFF, TAYLOR & ZAFMAN LLP

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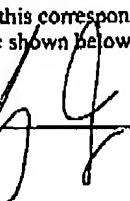


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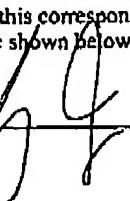
12400 Wilshire Boulevard
Seventh Floor
Los Angeles, California 90025
Telephone (310) 207-3800
Facsimile (310) 820-5988

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